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ABSTRACT

This study examined the degree to which parent behavior and sibling behavior are differentially related to adolescent adjustment. Using reports from adolescent sibling pairs (41 seventh graders and an older sibling), this study was designed to examine the degree to which parent and sibling behavior (i.e., warm/supportive and hostile) uniquely, and in combination, were related to adolescents' academic achievement, problem behavior, and association with delinquent friends. Participants provided self-reports of their own, their parents', and their siblings' behavior, their own and their friends' problem behavior, and their own academic achievement. For both seventh graders and their siblings, parents' behavior predicted more variability in problem behavior and association with delinquent friends than it did in academic achievement. Across models, fathers' hostile behavior emerged as a significant predictor of both problem behavior and friends' problem behavior. Siblings' hostile behavior was a significant predictor of academic achievement for both groups of adolescents; however, it was a significant predictor of problem behavior and association with delinquent friends only for the older siblings. For the older siblings, the seventh graders' warm/supportive behavior predicted academic achievement. When parents' and siblings' behavior were considered in combination, seventh graders' and fathers' hostile behavior emerged as significant, unique predictors of the older siblings problem behavior. Moreover, the seventh graders' warm/supportive and hostile behaviors emerged as significant, unique predictors of the older siblings' academic adjustment. (Author)

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Sibling and Parent Behavior as Predictors of Adolescents' Problem Behavior and Academic Achievement

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Poster presented at the Biennial Meeting of the Society for Research in Child Development, Albuquerque, NM, April 1999.

Abstract

This study examined the degree to which parent behavior and sibling behavior are differentially related to adolescent adjustment. Using reports from adolescent sibling pairs (41 seventh graders and an older sibling), this study is designed to examine the degree to which parent behavior and sibling behavior (i.e., warm/supportive and hostile) uniquely, and in combination, are related to adolescents' academic achievement, problem behavior, and their association with delinquent friends. Participants provided self-reports of their own, their parents', and their siblings' behavior, their own and their friends' problem behavior, and their own academic achievement. For both seventh graders and their siblings, parents' behavior predicted more variability in problem behavior and association with delinquent friends than it did in academic achievement. Across models, fathers' hostile behavior emerged as a significant predictor of both problem behavior and friends' problem behavior. Siblings' hostile behavior was a significant predictor of academic achievement for both groups of adolescents, however, it was a significant predictor of problem behavior and association with delinquent friends only for the older siblings. For the older siblings, the seventh graders' warm/supportive behavior predicted academic achievement. When parents' and siblings behavior where considered in combination, seventh graders' and fathers' hostile behavior emerged as significant, unique predictors of the older siblings' problem behavior. Moreover, the seventh graders' warm/supportive and hostile behaviors emerged as significant, unique predictors of the older siblings' academic adjustment. Implications of these finds are discussed.

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Introduction

Research has examined behaviors within the family that connote both interpersonal connection and interpersonal distance with respect to their influence on teens' academic achievement, problem behavior, and involvement with delinquent friends.

Strong links between parent behavior that promotes interpersonal connection (e.g., warmth/support, involvement, acceptance, responsiveness, security, etc.) and adolescents' adjustment have been reported. For example, findings indicate that parents who are warm, accepting, nurturant, supportive, or involved tend to have adolescents who score higher on standardized tests of academic achievement, and who have higher GPAs and educational aspirations (e.g., Barber & Olsen, 1997; Gonzales et al., 1996; Herman et al., 1997; Melby & Conger, 1996). Further, parent behavior that fosters interpersonal connection has been shown to be a negative correlate of adolescents' problem behavior, alcohol and substance use, and association with delinquent friends (e.g., Barber & Olsen, 1997; Barnes & Farrell, 1992; Eccles et al., 1997; Ge et al., 1996; Herman et al., 1997; Wagner et al., 1996; Whitbeck et al., 1989).

On the other hand, parent behavior that promotes interpersonal distance (e.g., hostility, rejection, criticism, psychological control, etc.) appears to have deleterious effects on multiple aspects of teens' academic performance (e.g., Feldman & Wentzel, 1990; Melby & Conger, 1996; Petit et al., 1997; Wentzel et al., 1991). Similarly, a number of studies have reported that parent behavior that promotes interpersonal distance is predictive of adolescents' conduct problems, noncompliance, substance use, and their association with delinquent friends (e.g., Barber, 1996;Conger et al., 1997; Ge et al., 1996; Maggs, et al., 1993; Wagner et al., 1996).

Strong associations also have been reported between negative behavior in sibling relationships and adolescents' problem behavior. For example, Dunn et al. (1994) found that older siblings who scored high on externalizing problems reported more conflict, and less intimacy and warmth in relationships with their siblings. Also, older siblings' internalizing problems in early adolescence were associated with a lack of friendly behavior toward the sibling during childhood. Further, siblings with more negatively charged relationships may actively promote the development, escalation, and maintenance of antisocial behavior (Slomkowski, et al., 1997).

A critical issue not addressed by many of these studies concerns the degree to which parent behavior and sibling behavior are differentially related to adolescent adjustment. Using reports from adolescent sibling pairs, this study is specifically designed to examine the degree to which parent and sibling behavior (i.e., warm/supportive and hostile) uniquely, and in combination, are related to adolescents' academic achievement and problem behavior.

Method

Participants

- 82 adolescent siblings (41 pair)
  - 41 seventh grade adolescents (17 males and 24 females)
  - 41 older siblings (21 males and 18 females), average age 15.3 years
- European-American, middle-class families living in the rural Midwest

Measures and Procedures

- Questionnaire self-reports from seventh graders and their older sibling about their own, their parents', and their siblings' behavior, their own and their friends' problem behavior, and their own academic achievement

Parent and Sibling Behavior

- Warm/Supportive: items tapped the frequency of positive communication and behaviors which expressed affection toward, appreciation of, or interest in the adolescent
  - e.g. "Listen carefully to my point of view."
- Hostile: items tapped the frequency of critical and antisocial behavior toward the adolescent
  - e.g. "Got angry at me."

Problem Behavior

- Seventh graders' and siblings' problem Behavior: items tapped the use of five "gateway" chemicals and participation in 30 minor delinquent behaviors
  - e.g. "Run away from home"
- Friends' Problem Behavior: items tapped the use of "gateway" chemicals by adolescents' friends and their involvement in minor delinquent behavior
  - e.g. "These friends sometimes break the law."

Academic Achievement

- Academic Achievement: items tapped the composite of adolescents' grade point average, their relationships with their teachers, their feelings about school, how well they keep up with school work, and if they received a failing grade
  - e.g. "School is very important to me."

Results

CORRELATIONAL ANALYSES: Seventh Graders' Reports (See Table 1)

Problem Behavior

- Hostile behavior of both mothers' ($r = .42$, $p < .01$) and fathers' ($r = .60$, $p < .001$) was positively correlated with problem behavior

Friends' Problem Behavior

- Warm/supportive behavior of both mothers' and fathers' was negatively correlated with friends' problem behavior ($r = -.32$, $p < .05$; $r = -.36$, $p < .05$, respectively)
- Mothers' ($r = .47$, $p < .01$) and fathers' ($r = .59$, $p < .001$) hostile behavior was positively correlated with friends' problem behavior
- Seventh graders' reports of their own problem behavior were positively correlated with their report of their friends' problem behavior ($r = .56$, $p < .001$)

Academic Achievement

- Hostile behavior of both mothers' ($r = -.39$, $p < .05$) and fathers' ($r = -.32$, $p < .05$) was negatively correlated with academic achievement
- Seventh graders' reports of their siblings' hostile behavior were negatively correlated with academic achievement ($r = -.36$, $p < .05$), as were the siblings' self-reports ($r = -.39$, $p < .05$)
- Seventh graders' reports of their friends' problem behavior were negatively correlated with their reports of their own academic achievement ($r = -.40$, $p < .01$)

REGRESSION RESULTS: Seventh Graders' Reports (See Table 2)

Prediction of Problem Behavior

- Seventh graders' reports of their mothers' and fathers' hostile behavior accounted for 37% (adjusted R^2) of the variance ($F(2,38) = 11.23$, $p < .001$).
  Fathers' hostile behavior made a significant, unique contribution ($\beta = .53$, $p < .001$).

Prediction of Friends' Problem Behavior

- Parents' warm/supportive and hostile behavior accounted for 31% (adjusted R^2) the variance ($F(4,36) = 5.94$, $p < .001$).
  Fathers' hostile behavior was a significant, unique predictor ($\beta = .44$, $p < .05$).

Prediction of Academic Achievement

- Mothers' and fathers' hostile behavior and mothers' warm/supportive behavior accounted for 17% (adjusted R^2) of the variance ($F(3,37) = 2.46$, $p < .10$).
- Self-reports and Seventh graders' reports of siblings' hostile behavior accounted for 15% (adjusted R^2) of the variance
  Seventh graders' reports of their siblings' hostile behavior was a significant, unique predictor ($\beta = -.28$, $p < .10$).
- In combination, parents' and siblings' hostile behavior and mothers' warm/supportive behavior accounted for 15% (adjusted R^2) of the variance

CORRELATIONAL ANALYSES: Older Siblings' Reports (See Table 3)

Problem Behavior

- Older siblings' problem behavior was positively correlated with mothers' ($r=.47$, $p<.01$) and with fathers' ($r=.59$, $p<.001$) hostile behavior, and negatively correlated with mothers' ($r=-.29$, $p<.10$) and with fathers' ($r=-.39$, $p<.05$) warm/supportive behavior.
- Older siblings' problem behavior was positively correlated with seventh graders' reports of their own hostile behavior ($r=.36$, $p<.05$).

Friends' Problem Behavior

- Friends' problem behavior was positively correlated with mothers' ($r=.51$, $p<.001$) and with fathers' ($r=.54$, $p<.001$) hostile behavior, and negatively correlated with mothers' ($r=-.33$, $p<.05$) and with fathers' ($r=-.46$, $p<.01$) warm/supportive behavior.
- Friends' problem behavior was positively correlated with seventh graders' ($r=.38$, $p<.05$) hostile behavior- sibling report and self-report ($r=.43$, $p<.01$). Friends' problem behavior was negatively correlated with seventh graders' ($r=-.33$, $p<.05$) warm/supportive behavior- self-report.
- Friends' problem behavior was positively correlated with older siblings' reports of their own problem behavior ($r=.60$, $p<.001$).

Academic Achievement

- Academic achievement was negatively correlated with mothers' ($r=-.28$, $p<.10$) and with fathers' ($r=-.31$, $p<.05$) hostile behavior.
- Academic achievement was positively correlated with seventh graders' warm/supportive behavior- sibling report ($r=-.43$, $p<.01$) and self-report ($r=.29$, $p<.10$).
- Academic achievement was negatively correlated with seventh graders' hostile behavior- sibling report ($r=-.29$, $p<.10$) and self-report ($r=-.45$, $p<.01$).
- Academic achievement was negatively correlated with older siblings' reports of their own problem behavior ($r=-.49$, $p<.001$).
- Academic achievement was negatively correlated with friends' problem behavior ($r=-.50$, $p<.001$).

REGRESSION RESULTS: Older Siblings' Reports (See Table 4)

Prediction of Problem Behavior

- Parents' behavior predicted 29% (adjusted R^2) of the variance ($F(4,36)=5.05$, $p<.01$).
  - Fathers' hostile behavior made a significant, unique contribution ($\beta = -.45$, $p<.05$)
- Seventh graders' hostile behavior- self-report predicted 10% (adjusted R^2) of the variance ($F(1,39)=5.66$, $p<.05$; $\beta = .36$, $p<.05$).
- Together, parent behavior and seventh graders' hostile behavior- self-report predicted 30% (adjusted R^2) of the variance ($F(5,35)=4.39$, $p<.01$).
  - Parents' behavior enhanced this prediction by 26% ($F_{inc}(4,35)=3.68$, $p<.05$).
  - Seventh graders' hostile behavior- self-report and fathers' hostile behavior each made a significant, unique contribution to the model ($\beta = .36$, $p<.05$, $\beta = .42$, $p<.10$, respectively).

Prediction of Friends' Problem Behavior

- Parents' behavior predicted 30% (adjusted R^2) of the variance ($F(4,36)=5.29$, $p<.01$).
- Seventh graders' behavior predicted 20% (adjusted R^2) of the variance ($F(3,37)=4.42$, $p<.01$).
  - Seventh graders' hostile behavior- self-report made a significant, unique contribution ($\beta = .31$, $p<.10$).
- Parents' behavior enhanced this prediction by 18% ($F_{inc}(4,33)=2.65$, $p<.05$).
- Together, parent behavior and seventh graders' behavior predicted 32% (adjusted R^2) of the variance ($F(7,33)=3.74$, $p<.01$).

Prediction of Academic Achievement

- Seventh graders' behavior predicted 25% (adjusted R^2) of the variance ($F(3,37)=5.49$, $p<.01$)
  - Seventh graders' hostile behavior- self-report made a significant, unique contribution ($\beta = -.36$, $p<.05$) as did the older siblings' report of the seventh graders' warm/supportive behavior ($\beta = .38$, $p<.05$)

Discussion

- Results indicate that compared to reports of mothers' behavior, reports of fathers' behavior were more predictive of the outcomes of interest. Concerning some aspects of children's behavior, this finding shows that fathers may be more influential than mothers.

- Findings show that parents' hostile behavior has more of an impact on adolescents' problem behavior than does warm/supportive behavior. However, when examining the bivariate correlations, parents' warm/supportive behavior was negatively correlated with both seventh graders' and older siblings' association with delinquent friends. Therefore, interventions that encourage parents to be warm and supportive in their relationships with adolescents as well as minimize their hostile behavior may serve to decrease adolescents' risk for problem behavior.

- For seventh graders and older siblings, parents' and siblings' hostile behavior also was found to be a better predictor of academic achievement, than was warm/supportive behavior. The only exception concerns older siblings' reports of seventh graders' behavior; warm/supportive behavior was found to be a better predictor. This could be due to the possible differences between the older siblings' reports of the seventh graders' behavior and the seventh graders' own reports of his/her behavior.

- For both seventh graders and older siblings, parents' behavior predicted more variability in problem behavior and association with delinquent friends than it did in academic achievement. Siblings' behavior was a significant predictor of academic achievement for both groups of adolescents, however, it was a significant predictor of problem behavior and association with delinquent friends only for the older siblings.

- Future research could include an examination of the influence of gender on the outcomes of interest. In addition, a more representative sample, in terms of socioeconomic factors, family structure, and geographic region, could increase the generalizability of the study.

Table 1: Intercorrelations for 7th Graders' Reports of Parent Behavior, Problem Behavior, Friends' Delinquent Behavior, Academic Achievement, and Reports of Siblings' Behavior

	1	2	3	4	5	6	7	8	9	10
1. Mothers' Warm/Supportive Behavior										
2. Mothers' Hostile Behavior	-70**									
3. Fathers' Warm/Supportive Behavior	61**	-40**								
4. Fathers' Hostile Behavior	-37*	54***	-50***							
5. Siblings' Warm/Supportive Behavior - Seventh Graders' Report	42**	11	57***	21						
6. Siblings' Hostile Behavior- Seventh Graders' Report	-35*	47**	-61***	45**	-55***					
7. Siblings' Warm/Supportive Behavior - Self-Report	-04	-10	04	-10	40**	-23				
8. Siblings' Hostile Behavior - Self-Report	-04	35*	-09	24	-11	45**	-29			
9. Problem Behavior	-19	42**	-01	60***	18	08	05	23		
10. Friends' Problem Behavior	-32*	47**	-36*	59***	-10	26	06	25	56***	
11. Academic Achievement	29	-39*	25	-32*	23	-36*	21	-39*	-14	-40**

Note: -decimals are omitted
+ = p < .10 * = p < .05 ** = p < .01 *** = p< .001

Table 2: Standardized Regression Coefficients for Predicting Seventh Graders' Problem Behavior, Academic Achievement, and Friends' Problem Behavior from Parent Behavior and Sibling Behavior

	β	Adjusted R^2
Criterion - Problem Behavior		
1. Parents' Behavior		.37***
Mothers' Hostile Behavior	.13	
Fathers' Hostile Behavior	.53***	
Criterion - Friends' Problem Behavior		
1. Parents' Behavior		.31***
Mothers' Warm/Supportive Behavior	.05	
Mothers' Hostile Behavior	.23	
Fathers' Warm/Supportive Behavior	-.09	
Fathers' Hostile Behavior	.44*	
Criterion - Academic Achievement		
1. Parents' Behavior		.17+
Mothers' Warm/Supportive Behavior	.04	
Mothers' Hostile Behavior	-.28	
Fathers' Hostile Behavior	-.15	
2. Siblings' Behavior		.15*
Siblings' Hostile Behavior - Self-Report	-.24	
Siblings' Hostile Behavior - Seventh Graders' Report	-.28+	
3. Parent Behavior and Sibling Behavior		.15+
Siblings' Hostile Behavior - Self-Report	-.10	
Siblings' Hostile Behavior - Seventh Graders' Report	-.29	
Mothers' Warm/Supportive Behavior	.15	
Mothers' Hostile Behavior	-.08	
Fathers' Hostile Behavior	-.11	

Note: + = $p<.10$, * = $p<.05$, ** = $p<.01$, *** = $p<.001$

Table 3: Intercorrelations for Older Siblings' Reports of Parent Behavior, Problem Behavior, Friends' Problem Behavior, Academic Achievement, and Reports of Seventh Graders' Behavior

	1	2	3	4	5	6	7	8	9	10
1. Mothers' Warm/Supportive Behavior										
2. Mothers' Hostile Behavior	-24									
3. Fathers' Warm/Supportive Behavior	76***	-34*								
4. Fathers' Hostile Behavior	-35*	72***	-53***							
5. Seventh Graders' Warm/Supportive Behavior - Sibling Report	49***	-32*	45**	-34*						
6. Seventh Graders' Hostile Behavior - Sibling Report	00	48**	00	29+	-36*					
7. Seventh Graders' Warm/Supportive Behavior - Self-Report	00	-06	-02	-05	19	17				
8. Seventh Graders' Hostile Behavior - Self-Report	-10	30+	-25	34*	-24	45**	-33**			
9. Problem Behavior	-29+	47**	-39*	59***	-23	18	-13	36*		
10. Friends Problem Behavior	-33*	51***	-46**	54***	-33*	38*	05	43**	60***	
11. Academic Achievement	17	-28+	17	-31*	43**	-29+	29+	-45**	-49***	-50***

Note: -decimals are omitted
+ = $p < .10$ * = $p < .05$ ** = $p < .01$ *** = $p < .001$

Table 4: **Standardized Regression Coefficients for Predicting Older Siblings' Problem Behavior, Academic Achievement and Friends' Problem Behavior from Parent Behavior and Seventh Grader Behavior.**

Predictors	Problem Behavior		Friends' Problem Behavior		Academic Achievement	
	β	Adjusted R^2	β	Adjusted R^2	β	Adjusted R^2
1. Parents' Behavior		.29**		.30**		.06
Mothers' Warm/Supportive Behavior	-.05		.00		----	
Mothers' Hostile Behavior	.11		.28		-.11	
Fathers' Warm/Supportive Behavior	-.08		-.26		----	
Fathers' Hostile Behavior	.45*		.21		-.23	
2. Seventh Graders' Behavior		.10*		.20**		.25**
Seventh Graders' Hostile Behavior - Self-Report	.36*		.31+		-.36*	
Seventh Graders' Warm/Supportive Behavior – Sibling Report	----		-.20		.38*	
Seventh Graders' Hostile Behavior - Sibling Report	----		.17		-.01	
3. Seventh Graders' Behavior		.30**		.32**		.22*
Seventh Graders' Hostile Behavior - Self-Report	.36*		.18		-.34*	
Seventh Graders' Warm/Supportive Behavior – Sibling Report	----		.01		.31*	
Seventh Graders' Hostile Behavior - Sibling Report	----		.18		.01	
Parents' Behavior						
Mothers' Warm/Supportive Behavior	-.09		-.02		----	
Mothers' Hostile Behavior	.09		.16		-.03	
Fathers' Warm/Supportive Behavior	-.03		-.26		----	
Fathers' Hostile Behavior	.42+	$R^2 \Delta$ =.26*	.17	$R^2 \Delta$ =.18*	-.08	

Note: + = p<.10; * = p<.05; ** = p<.01; *** = p<.001